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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,090	09/10/2003	Christopher J. Nagel	2751.2001US2	2724

38473 7590 12/20/2005

ELMORE PATENT LAW GROUP, PC
209 MAIN STREET
N. CHELMSFORD, MA 01863

EXAMINER	
KOPEC, MARK T	

ART UNIT	PAPER NUMBER
1751	

DATE MAILED: 12/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/659,090	NAGEL, CHRISTOPHER J.	
	Examiner	Art Unit	
	Mark Kopec	1751	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 September 2003* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

This application is a DIV of S.N. 10/123,028 (filed 4/12/02, now U.S. 6,921,497), which application is a CIP of S.N. 09/416,720 (filed 10/13/99, now U.S. 6,572,792). Claims 1-13 are currently pending.

Applicant should update the continuing data at page 1 of the instant specification to reflect the current information (above). The current information additionally contains an incorrect serial number (S.N. 10/123,228).

The disclosure is objected to because of the following informalities:

As in the parent application, it appears that the drawing description at pages 34 and 37 (of the specification) refer to the wrong drawing figures. For example, the description at page 34 (results of Figures 26 and 27) should recite Figures 25 and 26.

Clarification is required.

Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Affidavits or declarations, such as those submitted under 37 CFR 1.130, 1.131, and 1.132, filed during the prosecution of the prior application do not automatically become a part of this application. Where it is desired to rely on an earlier filed affidavit or declaration, the applicant should make the remarks

of record in this application and include a copy of the original affidavit or declaration filed in the prior application.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 10-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The limitations recited in each of these claims do not find literal or inherent support in the disclosure as originally filed. A Divisional application, by definition, cannot contain "new matter". While a divisional application may depart from the phraseology used in the parent application there may be no departure therefrom in substance or variation in the disclosure that would amount to "new matter" if introduced by amendment into the parent application. Compare MPEP § 201.08 and § 201.11.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-13 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2 of U.S. Patent No. 6,572,792 and over claims 1-13 of U.S. Patent No. 6,921,497. Although the conflicting claims are not identical, they are not patentably distinct from each other because both the instant claims and the "tailored copper" claims of 6,572,792 and 6,921,497 appear to be draw to copper/metal produced by identical process. The instant claims encompass the materials claimed in the parent cases. Although the claim wording is not identical, it appears from the disclosure(s) that the claimed products are not patentably distinct.

It is noted that the instant application is filed as a DIV of S.N. 123,028 (U.S. 6,921,497). However, a careful review of the record indicates that the instant claims (directed to magnetic properties) were never restricted in the parent application.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7, 9-11 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The terms "substantially free of other metals" (claims 1 and 6), "substantially free of spots of magnetic attraction" (claim 5), "substantially no difference in Gauss readings…" (claim 10), and "essentially zero" (claims 11 and 13) are relative terms which render the claim indefinite. The terms are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. When a term of degree is presented in a claim, first a determination is to be made as to whether

the specification provides some standard for measuring that degree. If, as in the instant case it does not, a determination is made as to whether one of ordinary skill in the art, in view of the prior art and the status of the art, would be nevertheless reasonably apprised of the scope of the invention. While, as a general proposition, broadening modifiers are standard tools in claim drafting in order to avoid reliance on the doctrine of equivalents in infringement actions, when the scope of the claim is unclear a rejection under 35 U.S.C. 112, second paragraph, is proper. See In re Wiggins, 488 F. 2d 538, 541, 179 USPQ 421, 423 (CCPA 1973).

In claim 9, the language "...characterized by an axially to radially anisotropic by an MFM" is indefinite. Applicant should add the term --scan-- after "anisotropic" (as referenced on pages 24-25 of the specification).

Claims 1-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The purpose of the requirement that the specification describe the invention in such terms that one skilled in the art

can make and use the claimed invention is to ensure that the invention is communicated to the interested public in a meaningful way. The information contained in the disclosure of an application must be sufficient to inform those skilled in the relevant art how to both make and use the claimed invention.

All of the pending claims are drawn to various embodiments of a copper composition possessing magnetic properties. The specification does not enable one of ordinary skill in the art to make or use a "magnetic" copper composition of matter that is distinguishable from its naturally occurring state, in that it would require undue experimentation to do so. Factors to be considered in determining whether a disclosure would require undue experimentation include, (1) the breadth of the claims, (2) the nature of the invention, (3) the state of the prior art, (4) the level of one of ordinary skill, (5) the level of predictability in the art, (6) the amount of direction provided by the inventor, (7) the existence of working examples and (8) the quantity of experimentation needed to make or use the invention based on the content of the disclosure. In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

(1) the breadth of the claims

Initially, note the above 112 written description rejection (claims 10-13) and the 112, second paragraph, rejections (1-7, 9-11 and 13) regarding the instant claims language.

Each of the pending claims recites a copper composition possessing magnetic properties of some sort. Recitations include attraction to neodymium iron born magnets or iron filings, or reference to MFM scans or Gauss readings.

(2) the nature of the invention

The scientific community has held the belief that pure copper metal (absent magnetic dopants) is not magnetic. Accordingly, the nature of the invention is such that it would be startling if it were operative, thus requiring greater detail and guidance than that found in the instant specification to provide enablement.

(3) the state of the prior art

There appears to be no prior art showing pure copper metal possessing magnetic properties. Note the prior art rejections of record are drawn to copper compositions containing magnetic additives.

(4) the level of one of ordinary skill

Since even the most highly skilled physicists would agree that, according to conventional theory, pure copper is non-

magnetic, the threshold of enablement is not met on pages 1-113 of the instant specification.

(5) the level of predictability in the art

It would be most unpredictable that cooper compositions as claimed possess magnetic properties.

(6) the amount of direction provided by the inventor, (7) the existence of working examples, and (8) the quantity of experimentation needed to make or use the invention

The amount of guidance or direction needed to enable the invention is inversely related to the amount of knowledge in the state of the art as well as the predictability in the art. In re Fisher, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970). The "amount of guidance or direction" refers to that information in the application, as originally filed, that teaches exactly how to make or use the invention. The more that is known in the prior art about the nature of the invention, how to make, and how to use the invention, and the more predictable the art is, the less information needs to be explicitly stated in the specification. In contrast, if little is known in the prior art about the nature of the invention and the art is unpredictable, the specification would need more detail as to how to make and use the invention in order to be enabling. See, e.g., Chiron Corp. v. Genentech Inc., 363 F.3d 1247, 1254, 70 USPQ2d 1321,

1326 (Fed. Cir. 2004). The "predictability or lack thereof" in the art refers to the ability of one skilled in the art to extrapolate the disclosed or known results to the claimed invention. If one skilled in the art can readily anticipate the effect of a change within the subject matter to which the claimed invention pertains, then there is predictability in the art. On the other hand, if one skilled in the art cannot readily anticipate the effect of a change within the subject matter to which that claimed invention pertains, then there is lack of predictability in the art.

The description of magnetic properties/testing appears at pages 33-34 of the instant specification. Additionally, the specification has five examples directed to "tailored" copper. Examples 1 and 11-14 disclose detailed heating/cooling schedules for the copper metal. The examiner submits that the process disclosed in each of these examples is nearly identical. The heating/cooling times, temperatures, atmospheres, cycles and carbon source appear to be substantially identical. Of these five examples, only two exhibit any type of magnetic activity (examples 11 and 12). Each of examples 1, 13, and 14 are specifically disclosed as exhibiting no (or minimal) magnetic activity. See page 34, lines 25-26; page 69, line 15; page 72, lines 4-6.

The examiner respectfully submits that undue experimentation would await the skilled artisan attempting to make the claimed invention. The inventive examples provide evidence that the disclosed process does not result in reproducible magnetic properties for copper metal. As the specification now appears, the skilled artisan would be unable to produce the claimed magnetic copper compositions without undue experimentation.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by either Svensson et al (*Magnetic and electrical properties of copper-iron…*), Dovgopol et al (*Magnetic, thermodynamic, and kinetic properties of copper containing 0.4-2.0 atom% iron impurities*), or Campbell et al (*A Moessbauer study of the magnetic properties of copper-iron(CuFe) alloys*).

Svensson et al discloses Cu-Fe alloys containing 0.2-1.7 atom% Fe (Abstract).

Dovgopol et al discloses Cu-Fe alloys containing 0.4-2.0 atom% Fe (Abstract).

Campbell et al discloses Cu-Fe alloys containing 0.24-4.6 atom% Fe (Abstract).

The examiner respectfully submits that the instant limitations "substantially free of other metals" (claims 1 and 6), "substantially free of spots of magnetic attraction" (claim 5), "substantially no difference in Gauss readings..." (claim 10), and "essentially zero" (claims 11 and 13) include the small amounts of Fe disclosed above.

The reference specifically or inherently meets each of the claimed limitations.

In view of the foregoing, the above claims have failed to patentably distinguish over the applied art.

Applicant is reminded that any evidence to be presented in accordance with 37 C.F.R. 1.131 or 1.132 should be submitted before final rejection in order to be considered timely.

The remaining references listed on forms 892 and 1449 have been reviewed by the examiner and are considered to be cumulative to or less material than the prior art references relied upon in the rejection above. Goodfellow (product data sheet) discloses "Magnetic copper" of the formula Cu99.96/Fe0.04. A publication date for the information is unavailable.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Kopec whose telephone number is (571) 272-1319. The examiner can normally be reached on Monday - Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on (571) 272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark Kopec
Primary Examiner
Art Unit 1751

MK
December 11, 2005